Incoming
M/001/0067

Peter Brinton <peterbrinton@utah.gov>

current CS Mining shut down and environmental concerns

Alysen Swenson <aswenson@csmining.com> Mon, May 23, 2016 at 1:14 PM
To: Peter Brinton <peterbrinton@utah.gov>
Cc: Ed Ginouves <eginouve@blm.gov>, Mark Novak <mnovak@utah.gov>, Paul Baker <paulbaker@utah.gov>, Dana Dean <danadean@utah.gov>

Hi Peter,

Thank you for cc-ing me on the note below. I have some changes to the texts, which I made in red below.

Thanks,

Alysen Swenson

Environmental Specialist

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From: Peter Brinton [mailto:peterbrinton@utah.gov]
Sent: Friday, May 13, 2016 11:03 AM
To: Alysen Swenson
Cc: Ed Ginouves; Mark Novak; Paul Baker; Dana Dean
Subject: Re: current CS Mining shut down and environmental concerns

Hi Aly,

I forgot to cc you. Please correct as needed.

Peter

On Thu, May 12, 2016 at 5:04 PM, Peter Brinton <peterbrinton@utah.gov> wrote:

Hi Dana,

Paul and I wanted to fill you in on my conversations with Aly Swenson (CS Mining) this week. The critical information is **bolded**, but I thought you some detail was important.

CS Mining's mining and processing operations are mostly shut down until they can get new funding to pay outstanding bills, which their current production hasn't been able to cover despite reportedly recently running at design capacity and in the black. Copper prices have dropped again (~$2.10/lb today). They have basically run out of sulfuric acid and fuel. Aly thinks they'll get new owners, but nothing is certain (including the timing). There are on-site assets of significant value, including their newly-constructed facilities and their older flotation tailings with significant leachable copper. **So this is apparently a reformatting-through-bankruptcy situation, at least for the short term.**

Aly reported that Dave McMullin is prioritizing their current environmental concerns, primarily the neutralization of low-pH decant water from recently-placed acid-leached tailings stored in the Intermediate Tailings Disposal Facility (ITDF). They're also doing some ongoing knapweed control.

Currently, CS Mining is pumping decant water (pH of ~2, and high in metals and TDS) from ITDF pond back through the SX/EW facilities to recover dissolved copper. Significant pregnant leach solution (I think) was wasted to the ITDF during plant start-up earlier this year, due to a gap between acid leach and SX/EW start-ups and an associated lack of PLS storage capacity. Aly says that current copper production from ITDF decant water is ~10,000 lbs (~5 tons) of copper per day, which is greater than the neutralization cost. Production is actually closer to 6,000 lbs of copper per day, which is still greater than the neutralization cost.

The return flow is being neutralized using lime kiln dust (LKD) from Graymont. The mix of water and LKD reportedly has a pH of about 8.7 when it's discharged back into the ITDF, so it has some excess neutralization capacity. As of last week, the pond was still reportedly at about a pH of 2, up from somewhere around 1.2 initially. Aly reports that the amount of LKD being mixed with re-processed decant water currently is about one truck (20+ tons?) a day, which is about half of the LKD addition before they idled the mill and leaching operations. **So the pond is slowly being neutralized at a currently slower rate.** The return flow is not yet being neutralized. This will occur sometime after the dissolved copper has been fully recovered from the decant water in the ITDF. Updates will be given on the status of this periodically.

The ITDF design was based on the assumption of non-acidic and low-TDS tailings. The HDPE liner should be OK, but future ITDF raises may need re-design. We are awaiting CS Mining's explanation for why they thought tailings would be non-acidic. I don't think the cause is inherent tailings geochemistry, but the result of heavier leaching. **More testing is needed, as well as changes to their Notice.** Agreed. I would like to work with the Division on making the necessary changes to the Notice.

The pond in their ITDF is large, since acidic water couldn't be recycled for milling, as originally planned. When I inspected on April 21st, the tailings beach was present between the dam and the pond, and there was still significant capacity to handle additional tailings production and stormwater. Assuming the mine is still idle, the water level will drop as natural and forced evaporation occur this summer. **CS Mining plans to install a forced evaporation system to increase tailings storage capacity and reduce pond size.**

If adequately-funded, CS Mining would have incentive to neutralize ITDF decant water to enable recycling to the mill for planned future processing, which would minimize loss of tailings storage capacity. Also, evaporation to reduce the pond size would push back the need for construction of ITDF lifts to enable additional tailings storage.

CS Mining may request a partial bond release. Their calculations show that they're over-bonded. However, Paul and I agree that **we can't justify a release unless they can show that excess surety exists after accounting for third-party ITDF neutralization costs** (which is not a scenario considered in their current operation and reclamation plans and cost estimate).

Let me know if you have questions. I've also cc'd Aly for any corrections/clarifications.

Peter

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Peter Brinton

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